

Claims

1. Liquid milk-substituting food concentrate on the basis of milk whey and/or derivatives derived therefrom, wherein the lactose initially present in the whey is converted for more than 25% by conversions comprising at least a lactic acid fermentation, and to which one or more organic acids other than
5 lactic acid have been added for providing a ratio of organic acid: lactic acid of 1:30 to 8:1 in said food concentrate.
2. A food concentrate according to claim 1, wherein said conversions also comprise a hydrolysis of lactose.
3. A food concentrate according to claim 2, wherein said hydrolysis of
10 lactose is the enzymatic hydrolysis with lactase.
4. A food concentrate according to claim 2 or 3, wherein said hydrolysis of lactose comprises the conversion of between 25% and 99% of the lactose present in the initial product.
5. A food concentrate according to any one of the preceding claims,
15 wherein said lactic acid fermentation is carried out with lactic acid bacteria selected from the group consisting of *Lactococcus lactis* subspecies (ssp.) *cremoris*, *Lactococcus lactis* ssp. *lactis*, *Lactococcus lactis* ssp. *lactis* biovar *diacetylactis*, *Leuconostoc mesenteroides* ssp. *cremoris*, *Streptococcus thermophilus*, *Lactobacillus delbrueckii* ssp. *bulgaricus*, *Lactobacillus*
20 *helveticus* and *Bacillus thermofillius amylovorans*.
6. A food concentrate according to any one of the preceding claims with a dry matter content of at least 20%, preferably at least 25%, more preferably at least 40%.
7. A food concentrate according to any one of the preceding claims, with
25 a pH in the range of 3.0 to 5.6, preferably in the range of 3.5 to 4.5.

8. A food concentrate according to any one of the preceding claims, wherein said one or more organic acids are formic acid, citric acid and/or propionic acid.
9. A food concentrate according to claim 8, comprising at most 15% by weight of the said one or more organic acids based on the dry matter weight of the food concentrate.
10. A food concentrate according to any one of the preceding claims, further comprising additionally added proteins, desugared whey, amino acids, protein hydrolysates, fats, carbohydrates, minerals, vitamins, emulsifiers, anti-oxidants, glucose syrup, binding agents and/or flavorings.
11. A method for the preparation of a liquid milk-substituting food concentrate comprising providing milk whey, converting more than 25% of lactose therein by conversions comprising at least a lactic acid fermentation, concentrating the milk whey fermentate and adding one or more organic acids other than lactic acid for providing a ratio of organic acid: lactic acid of 1:30 to 8:1 in said food concentrate.
12. A method according to claim 11, wherein said conversions also comprise a hydrolysis of lactose.
13. A method according to claim 12, wherein said hydrolysis of lactose is the enzymatic hydrolysis with lactase.
14. A method according to claim 12 or 13, wherein said hydrolysis of lactose comprises the conversion of between 25% and 99% of the lactose present in the initial product.
15. A method according to any one of claims 12 – 14, wherein said hydrolysis of lactose is carried out prior to said lactic acid fermentation.
16. A method according to any one of claims 11 – 15, wherein said lactic acid fermentation is carried out with lactic acid bacteria selected from the group consisting of *Lactococcus lactis* subspecies (ssp.) *cremoris*, *Lactococcus lactis* ssp. *lactis*, *Lactococcus lactis* ssp. *lactis* biovar *diacetylactis*, *Leuconostoc mesenteroides* ssp. *cremoris*, *Streptococcus thermophilus*, *Lactobacillus*

delbrueckii ssp. *bulgaricus*, *Lactobacillus helveticus*, and *Bacillus thermophilus amylovorans*.

17. A method according to any one of claims 11 – 16, wherein said one or more organic acids are added for providing a pH in the range of 3.0 to 5.6,
5 preferably in the range of 3.5 to 4.5.
18. A method according to any one of claims 11 – 17, wherein said one or more organic acids are formic acid, citric acid and/or propionic acid, preferably in an amount of 0.2 – 4% by weight based on the dry matter weight of the food concentrate.
- 10 19. A method according to any one of claims 11 – 18, wherein during and/or directly after the concentration of the milk whey fermentate, additional minerals, amino acids, fat and/or water soluble vitamins, flavorings, vegetable and/or animal protein hydrolysates, emulsifiers, anti-oxidants, vegetable and/or animal fats, glucose syrup and/or binding agents are added.
- 15 20. A method according to any one of claims 11 – 19, wherein the food concentrate after the addition of one or more organic acids is additionally mixed, emulsified, homogenized and/or sterilized.
21. A storage-stable milk-substituting food concentrate obtainable by means of a method according to any one of claims 11 – 20.
- 20 22. A milk-substituting food comprising a diluted storage-stable milk-substituting food concentrate according to any one of claims 1- 10 or 21.
23. A milk-substituting food according to claim 19, wherein the dry matter content has been reduced to a content of 8 – 22%.
24. Use of a milk-substituting food according to any one of claims 22 or
25 23 as calf milk.